Figure 1A

```
   1 agagagcagctcccttcccctcggcgaggaggaaggaagaagaaagccagagagagagag
  61 agagatcatcgcagcttctcctccgaccatttgactgcgactgtgattacaacacaccgt
 121 tgatcctacgaaaaagaggtaatggatactggcggcaattcgctggcgtccggacctgat      13
                            M  D  T  G  G  N  S  L  A  S  G  P  D
 181 ggtgtgaagaggaaagtttgttatttctatgaccctgaggtcggcaattactactatggc      33
       G  V  K  R  K  V  C  Y  F  Y  D  P  E  V  G  N  Y  Y  Y  G
 241 caaggtcatcccatgaagccccatcgcatccgcatgacccatgccctcctcgctcactac      53
       Q  G  H  P  M  K  P  H  R  I  R  M  T  H  A  L  L  A  H  Y
 301 ggtctccttcagcatatgcaggttctcaagcccttccctgcccgcgaacgtgatctctgc      73
       G  L  L  Q  H  M  Q  V  L  K  P  F  P  A  R  E  R  D  L  C
 361 cgcttccacgccgacgactatgtctcttttctccgcagcattacccctgaaacccagcaa      93
       R  F  H  A  D  D  Y  V  S  F  L  R  S  I  T  P  E  T  Q  Q
 421 gatcagattcgccaacttaagcgcttcaatgttggtgaagactgtcccgtctttgacggc      113
       D  Q  I  R  Q  L  K  R  F  N  V  G  E  D  C  P  V  F  D  G
 481 ctttattccttttgccagacctatgctggaggatctgttggtggctctgtcaagcttaac      133
       L  Y  S  F  C  Q  T  Y  A  G  G  S  V  G  G  S  V  K  L  N
 541 cacggcctctgcgatattgccatcaactgggctggtggtctccatcacgcgtaagaagtgc      153
       H  G  L  C  D  I  A  I  N  W  A  G  G  L  H  H  A  K  K  C
 601 gaggcctctggcttctgttacgtcaatgatatcgtcttagctatcctagagctccttaag      173
       E  A  S  G  F  C  Y  V  N  D  I  V  L  A  I  L  E  L  L  K
 661 cagcatgagcgtgttctttatgtcgatattgatatccaccacgggggatggagtggaggag      193
       Q  H  E  R  V  L  Y  V  D  I  D  I  H  H  G  D  G  V  E  E
 721 gcattttatgctactgacagggttatgactgtctcgtttcataaatttggtgattacttt      213
       A  F  Y  A  T  D  R  V  M  T  V  S  F  H  K  F  G  D  Y  F
 781 cccggtacaggtcacattcaggatataggttatggtagcggaaagtactattctctcaat      233
       P  G  T  G  H  I  Q  D  I  G  Y  G  S  G  K  Y  Y  S  L  N
 841 gtaccactggatgatggaatcgatgatgagagctatcatctgttattcaagcccatcatg      253
       V  P  L  D  D  G  I  D  D  E  S  Y  H  L  L  F  K  P  I  M
 901 gggaaagttatggaaattttccgaccaggggctgtggtattgcaatgtggtgctgactcc      273
       G  K  V  M  E  I  F  R  P  G  A  V  V  L  Q  C  G  A  D  S
 961 ctatctggggatcggttaggttgcttcaatctttcaatcaaaggtcatgctgagtgcgtc      293
       L  S  G  D  R  L  G  C  F  N  L  S  I  K  G  H  A  E  C  V
1021 aaatttatgagatcgttcaatgttcccctactgctgcttcttgggggtggtggtggttacactatc      313
       K  F  M  R  S  F  N  V  P  L  L  L  L  G  G  G  G  Y  T  I
1081 cgcaatgttgcccgttgctggtgctacgagactggagttgcacttggagttgaagttgaa      333
       R  N  V  A  R  C  W  C  Y  E  T  G  V  A  L  G  V  E  V  E
1141 gacaagatgccggagcatgaatattatgaatactttggtccagactatacacttcacgtt      353
       D  K  M  P  E  H  E  Y  Y  E  Y  F  G  P  D  Y  T  L  H  V
1201 gctccaagtaacatggaaaataagaattctcgtcagatgcttgaagagattcgcaatgac      373
       A  P  S  N  M  E  N  K  N  S  R  Q  M  L  E  E  I  R  N  D
1261 cttctccacaatctctctaagcttcagcatgctccaagtgtaccatttcaggaaagacca      393
       L  L  H  N  L  S  K  L  Q  H  A  P  S  V  P  F  Q  E  R  P
1321 cctgatacagagactcccgaggttgatgaagaccaagaagatggggataaaaagatgggat      413
       P  D  T  E  T  P  E  V  D  E  D  Q  E  D  G  D  K  R  W  D
1381 ccggattcagacatggatgttgatgatgaccgtaaacctataccaagcagagtaaaaaga      433
       P  D  S  D  M  D  V  D  D  D  R  K  P  I  P  S  R  V  K  R
1441 gaagctgttgaaccagatacaaaggacaaggatggactgaaaggaattatggagcgtgga      453
       E  A  V  E  P  D  T  K  D  K  D  G  L  K  G  I  M  E  R  G
1501 aaaggttgtgaggtggaggtggatgagagtggaagcactaaggttacaggagtaaaccca      473
       K  G  C  E  V  E  V  D  E  S  G  S  T  K  V  T  G  V  N  P
1561 gtgggagtggaggaagcaagtgtgaaaatggaagaggaaggaacaaacaagggtggggcg      493
       V  G  V  E  E  A  S  V  K  M  E  E  E  G  T  N  K  G  G  A
1621 gagcaggcgtttcctcctaaaacataagactcggagcttctaatttcttgctacttttttc      501
       E  Q  A  F  P  P  K  T  *
1681 tgtctatcaaatgttgctagttaagtttctggagttgttgttgttgtaagcactcctctg
1741 ttttagaggattgagcacggatatgtatttattcgttgcatgtctgaatgatgatatgat
1801 atgacaa
```

Figure 1B

```
   1 gtgcccacaactcctagtaatgactttctcaggcattgttgacacaaattttgctctgag
  61 taaaacttgggaatagagagagactctgagtgagagagagattctgagtgagagacggag
 121 atggaggcagacgaaagcggcatctctctgccgtcgggacccgacggacgtaagcggcga
      M  E  A  D  E  S  G  I  S  L  P  S  G  P  D  G  R  K  R  R   20
 181 gtcagttacttctacgagccgacgatcggagactactactacggtcaaggccacccgatg
      V  S  Y  F  Y  E  P  T  I  G  D  Y  Y  Y  G  Q  G  H  P  M   40
 241 aagcctcaccggatccgtatggctcatagcctaatcattcactatcacctccaccgtcgc
      K  P  H  R  I  R  M  A  H  S  L  I  I  H  Y  H  L  H  R  R   60
 301 ttagaaatcagtcgccctagcctcgctgacgcctccgatatcggccgattccattcgccg
      L  E  I  S  R  P  S  L  A  D  A  S  D  I  G  R  F  H  S  P   80
 361 gagtatgttgacttcctcgcttccgtttcgccggaatctatgggcgatccttccgctgca
      E  Y  V  D  F  L  A  S  V  S  P  E  S  M  G  D  P  S  A  A  100
 421 cgaaacctaaggcgattcaatgtcggtgaggattgtcctgtcttcgacggactttttgat
      R  N  L  R  R  F  N  V  G  E  D  C  P  V  F  D  G  L  F  D  120
 481 ttttgccgtgcttccgccggaggttctattggtgctgccgtcaaattaaacagacaggac
      F  C  R  A  S  A  G  G  S  I  G  A  A  V  K  L  N  R  Q  D  140
 541 gctgatatcgctatcaattggggcggtgggcttcaccatgctaagaaaagcgaggcttct
      A  D  I  A  I  N  W  G  G  L  H  H  A  K  K  S  E  A  S  160
 601 gggttttgctatgtaaacgacatcgtgctagggattctggagttgctcaagatgtttaag
      G  F  C  Y  V  N  D  I  V  L  G  I  L  E  L  L  K  M  F  K  180
 661 cgggttctctacatagatattgatgtccaccatggagatggagtggaagaagcgttttac
      R  V  L  Y  I  D  I  D  V  H  H  G  D  G  V  E  E  A  F  Y  200
 721 accactgatagagttatgactgtttctttccacaaatttggggactttttcccaggaact
      T  T  D  R  V  M  T  V  S  F  H  K  F  G  D  F  F  P  G  T  220
 781 ggtcacataagagatgttggcgctgaaaaagggaaatactatgctctaaatgttccacta
      G  H  I  R  D  V  G  A  E  K  G  K  Y  Y  A  L  N  V  P  L  240
 841 aacgatggtatggacgatgaaagtttccgcagcttgtttagacctcttatccagaaggtt
      N  D  G  M  D  D  E  S  F  R  S  L  F  R  P  L  I  Q  K  V  260
 901 atggaagtgtatcagccagaggcagttgttcttcagtgtggtgctgactccttaagtggt
      M  E  V  Y  Q  P  E  A  V  V  L  Q  C  G  A  D  S  L  S  G  280
 961 gatcggttgggttgcttcaacttatcagtcaagggtcacgctgattgccttcggttctta
      D  R  L  G  C  F  N  L  S  V  K  G  H  A  D  C  L  R  F  L  300
1021 agatcttacaacgttcctctcatggtgttgggtggtgaagggtatactattcgaaatgtt
      R  S  Y  N  V  P  L  M  V  L  G  G  E  G  Y  T  I  R  N  V  320
1081 gcccgttgctggtgttatgagactgcagttgctgttggagtagagccggacaacaaactc
      A  R  C  W  C  Y  E  T  A  V  A  V  G  V  E  P  D  N  K  L  340
1021 ccttacaatgagtattttgagtatttcggcccagattatacgcttcatgtcgacccaagt
      P  Y  N  E  Y  F  E  Y  F  G  P  D  Y  T  L  H  V  D  P  S  360
1201 cctatggagaatttaaacacgcccaaagatatggagaggataaggaacacgttgctggaa
      P  M  E  N  L  N  T  P  K  D  M  E  R  I  R  N  T  L  L  E  380
1261 caactttcgggactaatacacgcacctagcgtccagtttcagcacacaccaccagtcaat
      Q  L  S  G  L  I  H  A  P  S  V  Q  F  Q  H  T  P  P  V  N  400
1321 cgagttttggacgagccggaagatgacatggagacaagaccaaaacctcgcatctggagt
      R  V  L  D  E  P  E  D  D  M  E  T  R  P  K  P  R  I  W  S  420
1381 ggaactgcgacttatgaatcagacagtgacgatgatgataaacctcttcatggttactca
      G  T  A  T  Y  E  S  D  S  D  D  D  D  K  P  L  H  G  Y  S  440
1441 tgtcgtggtggcgcaactacggacagggactctaccggtgaagatgaaatggatgacgat
      C  R  G  G  A  T  T  D  R  D  S  T  G  E  D  E  M  D  D  D  460
1501 aacccagagccagacgtgaatcctccatcgtcttaaaccagcttgatggtttggtgtctc
      N  P  E  P  D  V  N  P  P  S  S  *                          471
1561 ttttgccatatgataatgtcggcagatttaagaaacaagttaggggaatgaatgattctt
1621 tgatgttttttcagcaaccttttgagttctgtgaaaacgctgcattgattagaacagtga
1681 caactgactagtattttggcccaagttagaaaatcagaatatgtgaaaaaaaaaaaaaaa
1741 aaaaaaagggcggccgctctagaggatccaagcttacgtacgcgtgcatgcgacgtcat
```

Figure 2A

```
  1  cacgcgtccgtaaaaatcctctctttttctcaaccttgattcttagccatggagttctgg
                                                          M   E   F   W    4
 61  ggaattgaagttaaatcaggaaagccagttacagtgactcctgaagaaggcattcttatc
      G   I   E   V   K   S   G   K   P   V   T   V   T   P   E   E   G   I   L   I   24
121  cacgtttctcaggcatcgcttggagaatgtaaaaacaagaagggagagtttgtgccttta
      H   V   S   Q   A   S   L   G   E   C   K   N   K   K   G   E   F   V   P   L   44
181  catgtaaaggttgggaaccagaacttggttctgggaactctatcgactgagaacatccct
      H   V   K   V   G   N   Q   N   L   V   L   G   T   L   S   T   E   N   I   P   64
241  cagcttttctgtgatttggtattcgacaaggagtttgagctttctcacacttggggaaaa
      Q   L   F   C   D   L   V   F   D   K   E   F   E   L   S   H   T   W   G   K   84
301  ggaagtgtttactttgttggatacaaaactcccaacattgagccacaaggctattctgag
      G   S   V   Y   F   V   G   Y   K   T   P   N   I   E   P   Q   G   Y   S   E  104
361  gaagaagaggaagaagaggaagaagttcctgctgggaatgctgccaaggctgtagctaaa
      E   E   E   E   E   E   E   V   P   A   G   N   A   A   K   A   V   A   K  124
421  ccaaaggctaagcctgcagaagtgaagccagctgttgatgatgaagaggatgagtctgat
      P   K   A   K   P   A   E   V   K   P   A   V   D   D   E   E   D   E   S   D  144
481  tctgacggaatggatgaagatgattctgatggtgaggattctgaggaagaagagcctaca
      S   D   G   M   D   E   D   D   S   D   G   E   D   S   E   E   E   P   T  164
541  cctaagaagcctgcatcaagcaagaagagagctaatgaaactacccctaaagcacctgtg
      P   K   K   P   A   S   S   K   K   R   A   N   E   T   T   P   K   A   P   V  184
601  tcagcaaagaaggcgaaagtagcagttactcctcagaaaacagatgagaagaagaaaggg
      S   A   K   K   A   K   V   A   V   T   P   Q   K   T   D   E   K   K   K   G  204
661  ggaaaggctgcaaaccagagcccaaagtcggccagtcaagtctcatgtggttcatgcaag
      G   K   A   A   N   Q   S   P   K   S   A   S   Q   V   S   C   G   S   C   K  224
721  aagactttcaactcagggaatgcacttgagtctcacaacaaggccaagcacgctgctgcc
      K   T   F   N   S   G   N   A   L   E   S   H   N   K   A   K   H   A   A   A  244
781  aagtgaagtggtttcttattagagcttgtgatttctatggaatttttgcctgtagtcttta
      K   *                                                           245
841  tgaaaccttcggattttcttatattttctttttgataacaagagtcttaatgaaagagagc
     cagttggagtcttaaaaaaaaaaaaaaaaagggcggccgc
```

Figure 2B

```
   1 gtctttcgcttctaaaaaaaaacctaacaacctctcttctctcttcctcgttcaacaaca
  61 atggagttctggggagttgcggtgacaccaaaaaacgctactaaggtgactcctgaagaa
     M  E  F  W  G  V  A  V  T  P  K  N  A  T  K  V  T  P  E  E    20
 121 gacagccttgtccacatttctcaggcttcacttgactgcacagtgaaatctggagaatct
     D  S  L  V  H  I  S  Q  A  S  L  D  C  T  V  K  S  G  E  S    40
 181 gtggttttgagtgtgactgttggtgggggctaaacttgttattggaacactttcacaagac
     V  V  L  S  V  T  V  G  G  A  K  L  V  I  G  T  L  S  Q  D    60
 241 aagttccctcagattagctttgatttggttttttgataaagagtttgagctttcacacagc
     K  F  P  Q  I  S  F  D  L  V  F  D  K  E  F  E  L  S  H  S    80
 301 ggtaccaaagcaaatgttcatttcattggctacaaatcccccaacatcgagcaggatgac
     G  T  K  A  N  V  H  F  I  G  Y  K  S  P  N  I  E  Q  D  D   100
 361 ttcactagttcggatgatgaggatgttcctgaagctgttcctgctcctgcccctactgct
     F  T  S  S  D  D  E  D  V  P  E  A  V  P  A  P  A  P  T  A   120
 421 gttactgccaacggaaatgctggagcagctgttgtcaaggctgacacaaagccaaaggcc
     V  T  A  N  G  N  A  G  A  A  V  V  K  A  D  T  K  P  K  A   140
 481 aaacctgccgaagtgaagcctgcagaagagaagcctgaatcagacgaggaagatgagtct
     K  P  A  E  V  K  P  A  E  E  K  P  E  S  D̲  E̲  E̲  D̲  E̲  S̲   160
 541 gatgatgaagatgagtctgaagaggatgatgactctgagaaaggaatggatgttgatgaa
     D̲  D̲  E̲  D̲  E̲  S̲  E̲  E̲  D̲  D̲  D̲  S̲  E̲  K̲  G̲  M̲  D̲  V̲  D̲  E̲   180
 601 gatgactcagatgatgacgaggaggaggattctgaggatgaagaagaggaggagactcct
     D̲  D̲  S̲  D̲  D̲  D̲  E̲  E̲  E̲  D̲  S̲  E̲  D̲  E̲  E̲  E̲  E̲  T  P   200
 661 aagaagcctgagccaatcaacaagaagaggccaaatgaatctgtatccaaaacacccgtc
     K  K  P  E  P  I  N  K  K  R  P  N  E  S  V  S  K  T  P  V   220
 721 tctggaaagaaggcaaaaccagcagcagcaccagcttctactcctcagaagacagagaag
     S  G  K  K  A  K  P  A  A  A  P  A  S  T  P  Q  K  T  E  K   240
 781 aagaaaggaggacacaccgccacaccacacccagctaagaagggtggaaagtctcctgtg
     K  K  G  G  H  T  A  T  P  H  P  A  K  K  G  G  K  S  P  V   260
 841 aatgctaaccagagccccaagtctggaggtcaatcatccggtggtaacaacaacaagaag
     N  A  N  Q  S  P  K  S  G  G  Q  S  S  G  G  N  N  N  K  K   280
 901 ccattcaactcaggcaaacaatttggtggttccaacaacaagggttctaacaagggcaag
     P  F  N  S  G  K  Q  F  G  G  S  N  N  K  S  N  K  G  K   300
 961 ggaaagggtagagcttaaggacgtggatcaaggagaggttttgggttttcgagtagatga
     G  K  G  R  A  *                                             305
1021 tgaaaacacttggaagtgtggttttggattttttatcttattttattagtataacttgtta
1081 tcggatgagctattttgagtatttgcaatttctactttcctatgtaattcagtatatgaa
1141 tatttgctgaaatgagaaagaagactcgaattgcaaacaaaaaaaaaaaaaaaaaaaaaaa
1201 aagggcggccgc
```

Figure 3

```
AtRPD3A   MD-----TGG  NSLAS-GPDG  VKRKVCYFYD  PEVGNYYYGQ  GHPMKPHRIR   44
AtRPD3B   MEADESGI--  -SLPS-GPDG  PKRRVSYFYE  PTIGDYYYGQ  GHPMKPHRIR   47
ZmRPD3    MDPSSAGSGG  NSLPSVGPDG  QKRRVCYFYD  PDVGNYYYGQ  GHPMKPHRIR   50
RPD3      MVYEATPFD-  ---PITVKPS  DKRRVAYFYD  ADVGNYAYGA  GHPMKPHRIR   46


AtRPD3A   MTHALLAHYG  LLQHMQVLKP  FPARERDLCR  FHADDYVSFL  RSITPETQQD   94
AtRPD3B   MAHSLIIHYH  LHRRLEISRP  SLADASDIGR  FHSPEYVDFL  ASVSPESMGD   97
ZmRPD3    MTHSLLARYG  LLNQMQVYRP  NPARERELCR  FHAEEYINFL  RSVTPETQQD  100
RPD3      MAHSLIMNYG  LYKKMEIYRA  KPATKQEMCQ  FHTDEYIDFL  SRVTPDNLEM   96


AtRPD3A   QI--RQLKRF  NVGEDCPVFD  GLYSFCQTYA  GGSVGGSVKL  NHGLCDIAIN  142
AtRPD3B   PSAARNLRRF  NVGEDCPVFD  GLFDFCRASA  GGSIGAAVKL  NRQDADIAIN  147
ZmRPD3    QI--RLLKRF  NVGEECPVLD  GLYSFCQTYA  GASVGGAVKF  NHGH-DIAIN  147
RPD3      --FKRESVKF  NVGDDCPVFD  GLYEYCSISG  GGSMEGAARL  NRGKCDVAVN  144


AtRPD3A   WAGGLHHAKK  CEASGFCYVN  DIVLAILELL  KQHERVLYVD  IDIHHGDGVE  192
AtRPD3B   WGGGLHHAKK  SEASGFCYVN  DIVLGILELL  KMFKRVLYID  IDVHHGDGVE  197
ZmRPD3    WSGGLHHAKK  CEASGFCYVN  DIVLAILELL  KHHERVLYVD  IDIHHGDGVE  197
RPD3      YAGGLHHAKK  SEASGFCYLN  DIVLGIIELL  RYHPRVLYID  IDVHHGDGVE  194
            **          *                        *  *    **


AtRPD3A   EAFYATDRVM  TVSFHKFGDY  FPGTGHIQDI  GYGSGKYYSL  NVPLDDGIDD  242
AtRPD3B   EAFYTTDRVM  TVSFHKFGDF  FPGTGHIRDV  GAEKGKYYAL  NVPLNDGMDD  247
ZmRPD3    EAFYTTDRVM  TVSFHKFGDY  FPGTGDIRDI  GHSKGKYYSL  NVPLDDGIDD  247
RPD3      EAFYTTDRVM  TCSFHKYGEF  FPGTGELRDI  GVGAGKNYAV  NVPLRDGIDD  244
            *                      *  *


AtRPD3A   ESYHLLFKPI  MGKVMEIFRP  GAVVLQCGAD  SLSGDRLGCF  NLSIKGHAEC  292
AtRPD3B   ESFRSLFRPL  IQKVMEVYQP  EAVVLQCGAD  SLSGDRLGCF  NLSVKGHADC  297
ZmRPD3    ESYQSLFKPI  MGKVMEVFRP  GAVVLQCGAD  SLSGDRLGCF  NLSIKGHAEC  297
RPD3      ATYRSVFEPV  IKKIMEWYQP  SAVVLQCGGD  SLSGDRLGCF  NLSMEGHANC  294


AtRPD3A   VKFMRSFNVF  LLLLGGGGYT  IRNVARCWCY  ETGVALGVEV  EDKMPEHEYY  342
AtRPD3B   LRFLRSYNVP  LMVLGGEGYT  IRNVARCWCY  ETAVAVGVEP  DNKLPYNEYF  347
ZmRPD3    VRYMRSFNVP  LLLLGGGGYT  IRNVARCWCY  ETGVALGQEP  EDKMPVNEYY  347
RPD3      VNIVKSFGIF  MMVVGGGGYT  MRNVARTWCF  ETGLLNNVVL  DKDLPYNEYY  344


AtRPD3A   EYFGPDYTLH  VAPSNMENKN  SRQMLEEIRN  DLLHNLSKLQ  HAPSVPFQER  392
AtRPD3B   EYFGPDYTLH  VDPSNMENKN  TPKDMERIRN  TLLHNLSGLI  HAPSVQFQHT  397
ZmRPD3    EYFGPDYTLH  VAPSNMENKN  TRQQLDDIRS  ----KLSKLR  HAPSVHFQER  393
RPD3      EYYGPDYKLS  VRPSNMFNVN  TPEYLDKVMT  NIFANLENTK  YAPSVQLNHT  394


AtRPD3A   PPDTETPEVD  EDQEDGDKRW  DPDSDMDVDD  D--------R  KPIPSRVKRE  434
AtRPD3B   PPVNRVLD--  ----------  EPEDDME---  --------TR  KP---RIWSG  421
ZmRPD3    VPDTEIPEQD  EDQDDPDERH  DPDSDMEVDD  HKAVEESSRR  SILGIKIKRE  443
RPD3      P---------  --------R-  DAEDLGDVEE  DSA-------  ----------  409


AtRPD3A   AVEPDTKDKD  GLKGIMERGK  GCEVEVDESG  STKVT---GV  NPVGVEEAS-  480
AtRPD3B   TATYESDSDD  DDKPL--HGY  SC--------  --RGGATTDR  DSTGEDEMDD  459
ZmRPD3    FGENATRVQD  GGRVASEH-R  GLEPMAEDIG  SSKQAPQADA  SAMAIDEPSN  492
RPD3      ----------  ----------  ----------  ----------  ------EAKD  413


AtRPD3A   VKMEEEGTNK  GGAEQAFPPK  T                                   501
AtRPD3B   DNPEPDVNP-  -------PSS                                     471
ZmRPD3    VKNEPESSTK  LQGQAAAYHK  P                                   513
RPD3      TKGGSQYARD  LHVEHDNEFY                                     433
```
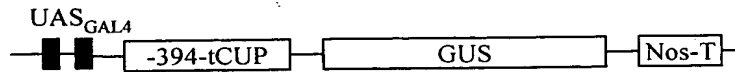
Figure 4

```
AtHD2A  MEFWGIEVKS GKPVTVTPEE GILIHVSQAS LGECKNKKGE FVPLHVKVGN   50
AtHD2B  MEFWGVAVTP KNATKVTPEE DSLVHISQAS L-DCTVKSGE SVVLSVTVGG   49
ZmHD2   MEFWGLEVKP GSTVKCEPGY GFVLHLSQAA LGES--KKSD NALMYVKIDD   48
                                *

AtHD2A  QNLVLGTLST ENIPQLFCDL VFDKEFELSH TWGKGSVYFV GYKTPNIEPQ  100
AtHD2B  AKLVIGTLSQ DKFPQISFDL VFDKEFELSH SGTKANVHFI GYKSPNIEQD   99
ZmHD2   QKLAIGTLSV DKNPHIQFDL IFDKEFELSH TSKTTSVFFT GYKVEQPFEE   98
                     *

AtHD2A  GYSEEEEEE- EEEVPAGNAA ---------- ---KAVAKPK AKPAEVKPAV  136
AtHD2B  DFTSSDDEDV PEAVPAPAPT AVTANGNAGA AVVKADTKPK AKPAEVKPAE  149
ZmHD2   DEMDLDSEDE DEELNVP--- VVKENGKADE KKQKSQEKAV AAPSKSSPDS  145

AtHD2A  ----DDEEDE SDS-D----- -------GMD EDDSDGEDSE EEE-------  162
AtHD2B  EKPESDEEDE SDDEDESEED --DDSEKGMD VDEDDSDDDE EEDSEDEEEE  197
ZmHD2   KKSKDDDDSD EDETDDSDED ETDDSDEGLS SEEGDDDSSD EDDTSDDEEE  195

AtHD2A  PTP--KKPAS -SKKRANETT PKAPVSAKKA KVAV----TP QKTDEKK---  202
AtHD2B  ETP--KKPEP INKKRPNESV SKTPVSGKKA KPAAAPASTP QK-----TEK  240
ZmHD2   DTPTPKKPEV GKKRPAESSV LKTPLSDKKA KVATPSS--- QKTGGK----  238

AtHD2A  -KGGKA---- ---------- --------AN QSPKSASQVS CGSC-KKTFN  229
AtHD2B  KKGG--HTAT PHPAK----- KGGKSPVNAN QSPKSGGQSS GGNNNKKPFN  283
ZmHD2   -KGAAVHVAT PHPAKGKTIV NNDKSVKSPK SAPKSGGSVP CKPCSK-SFI  286

AtHD2A  SGNALE-SHN KAKHAAAK                                     245
AtHD2B  SGKQFGGSNN KGSNKGKGKG RA                                305
ZmHD2   SETALQA-HS RAKMGASESQ VQ                                307
```

Figure 10

A

Reporter Plasmid

UAS$_{GAL4}$-tCUP-GUS

Effector Plasmids

GAL4-AtHD2A (1-245)

GAL4-AtHD2A (1-211)

GAL4-AtHD2A (1-162)

GAL4-AtHD2A (1-100)

GAL4-AtHD2A (73-245)

GAL4
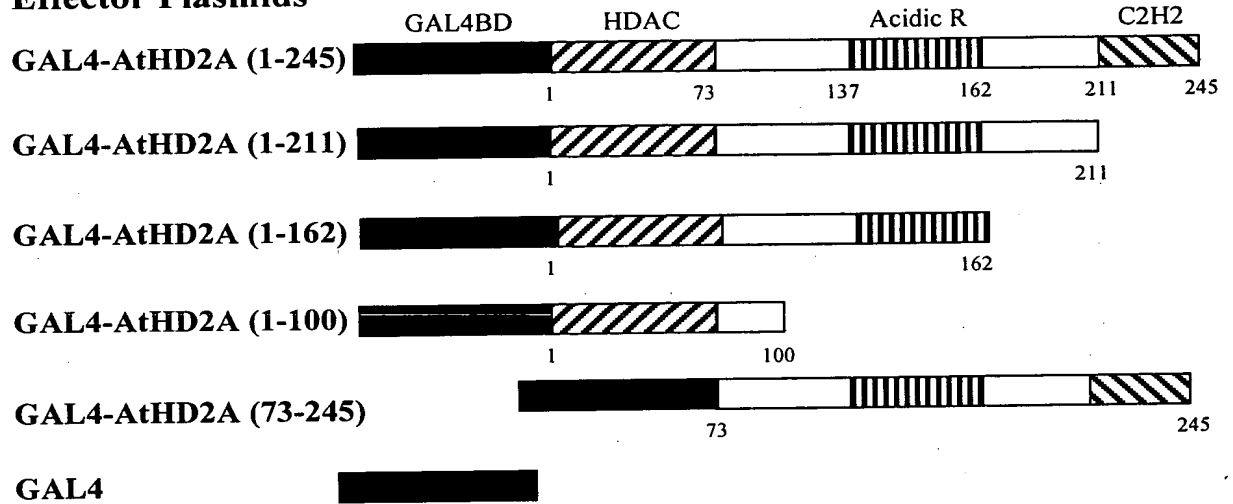
B
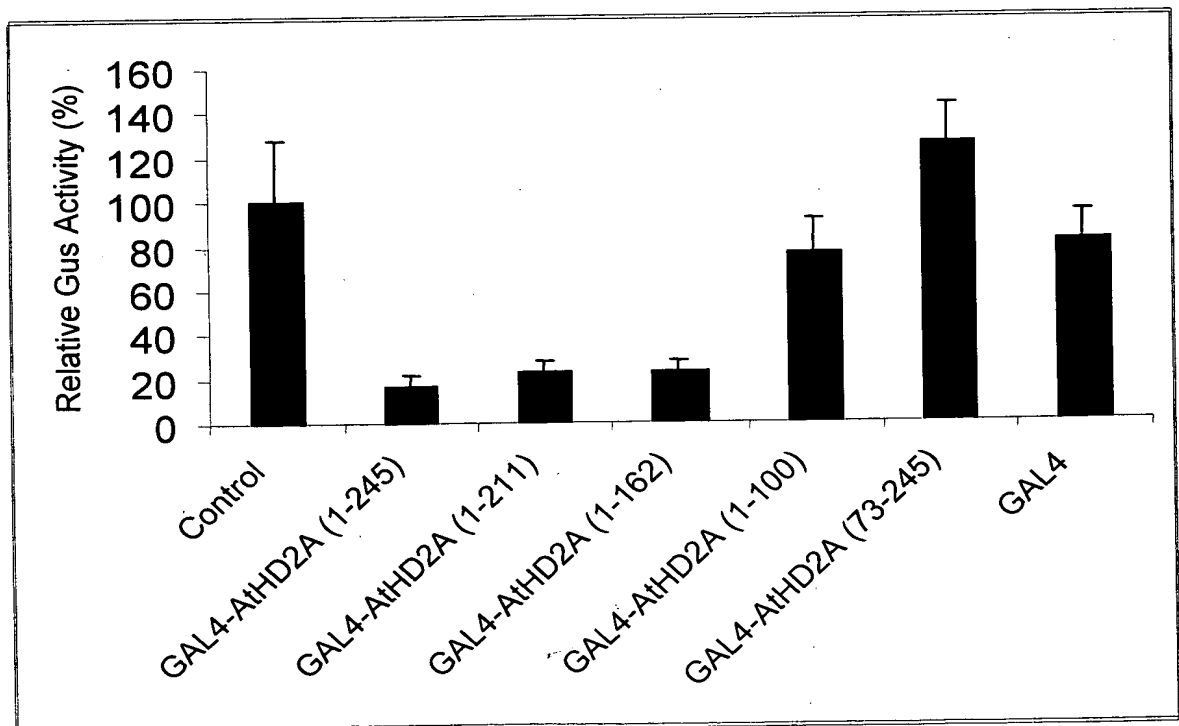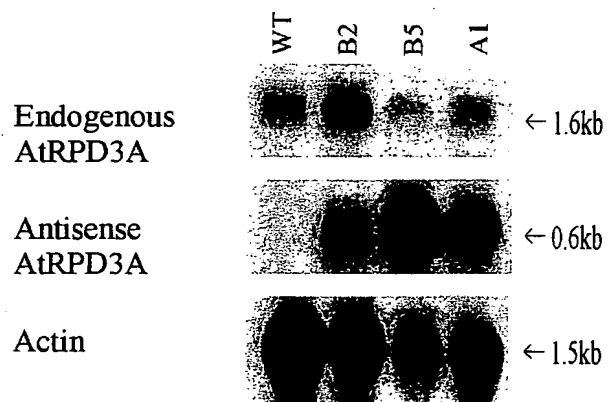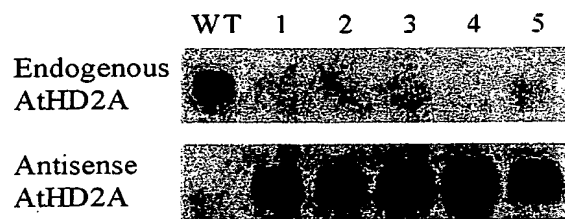
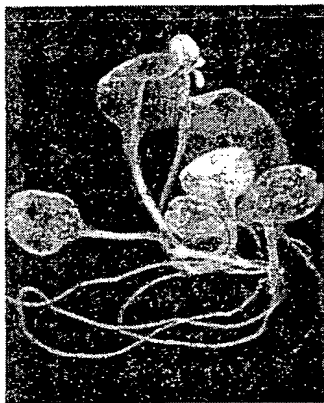**FIGURE 12**

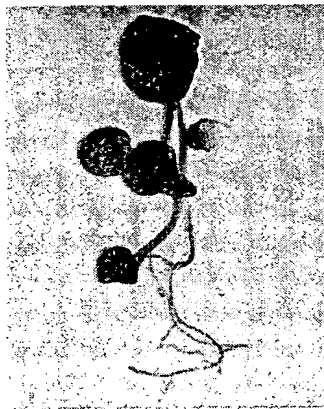## FIGURE 13

FIGURE 14
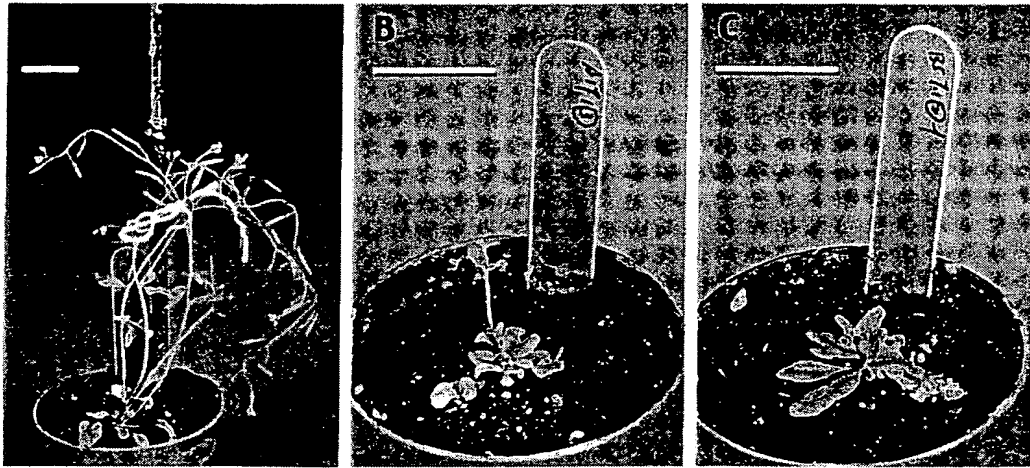
FIGURE 15

FIGURE 16

200 µm
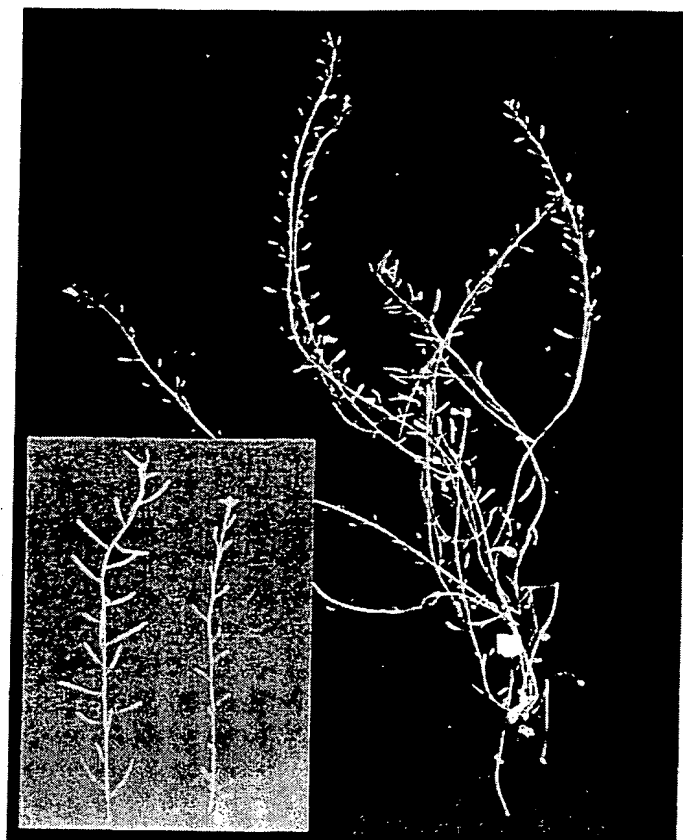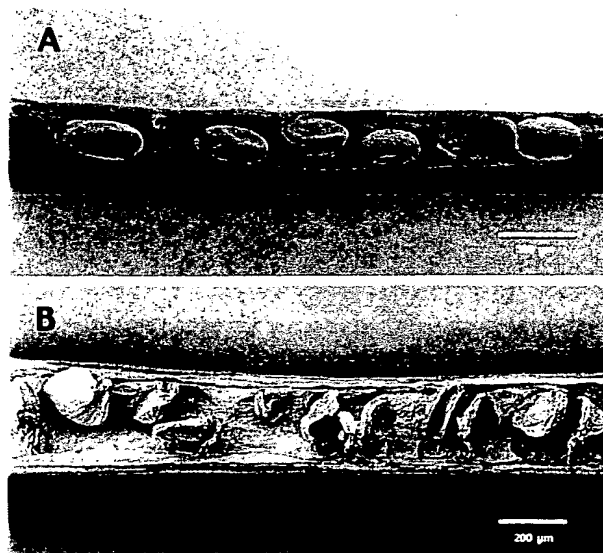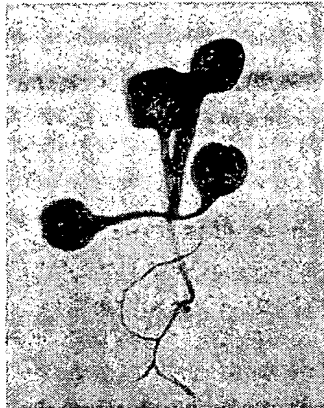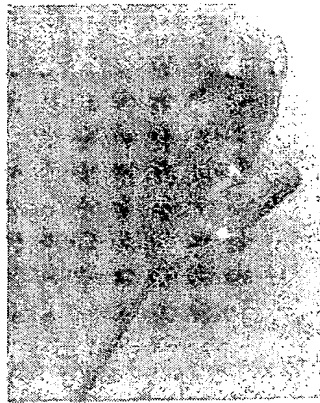
Figure 18

A

Effector Plasmids

35S/Pti4 — [35S]—[Pti4]—[Nos-T]—

tCUP/Pti4 — [tCUP]—[Pti4]—[Nos-T]—

Reporter Plasmid

GCC-box

GCC/GUS —■ ■—[-62tCUP]—[GUS]—[Nos-T]—

B
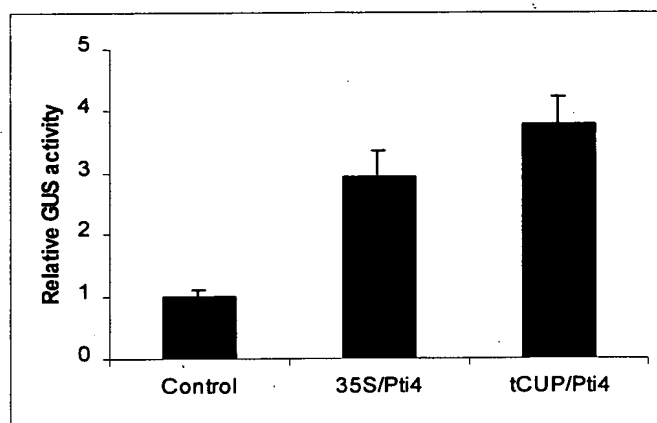
Figure 20

Figure 21

Figure 22